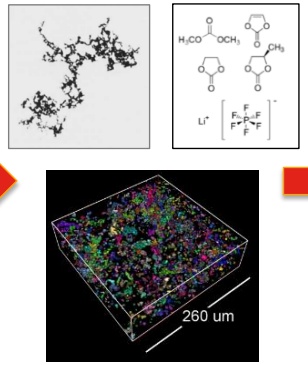
SEMI-SOLID RECHARGEABLE POWER SOURCES: FLEXIBLE, HIGH-PERFORMANCE STORAGE FOR VEHICLES AND GRID AT ULTRALOW COST (<$0.10/Wh)

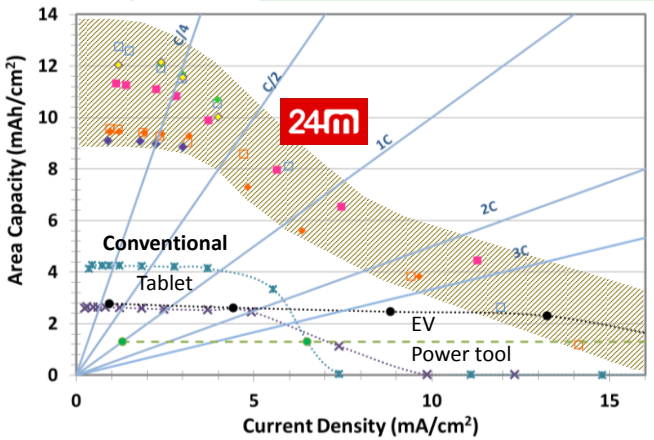
Technology Development Path

Novel Flow Battery Concept



Materials design

Novel semi-solid electrode form



Stacks with 3x the Area Capacity of Li-ion Minimizes Inactive Materials, Enables New Product Designs

24M Progress Enabled by ARPA-E (project end 9/2013)

- $52M in Follow-on Funding ($50M from venture/strategic capital; $2M from DOE Vehicle Technologies
- 32,000 ft^2 pilot manufacturing facility (Cambridge MA)
- 50 employees (And we're hiring! Send your resume!
- Patents: 6 issued/allowed, 58 pending

Rack-based applications

Best Attributes of Li-ion at Radically Lower Cost

- 20% higher energy density for same Li-ion actives
- >90% energy efficiency at C/2 - C/4 rate (Grid product)
- 3000 cycles (100% DOD), 18-20yr calendar life
- Improved safety, VERY damage tolerant
- Lower cost in all areas: BOM, CAPEX, COGS
- Realized in $10-$20M factory rather than $500M factory

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